

Work Order ID 131810

Tuesday, April 21, 2015 2:05:38 PM

131810

Page 1

Item ID: D5122-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Center Support, Upper
Start Date: 4/20/15 Start Qty: 5.00 ***5*** Cust Item ID:
Required Date: 4/20/15 Req'd Qty: 5.00 ***5*** Customer:
Reference:

Approvals: Process Plan: CX Date: 15/04/22 Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D5122	A								

100

0.00

100

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

Machine as per Folio FB324

Folio Rev: AADwg Rev: A

Deburr

6 0 JFL 2015-05-08

110

0.00

110

QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

6 0 OFL 2015-05-08

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Work Order ID 131810

Tuesday, April 21, 2015 2:05:38 PM

131810

Page 2

Item ID: D5122-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Center Support, Upper

Start Date: 4/20/15

Start Qty: 5.00

5

Cust Item ID:

Required Date: 4/20/15

Req'd Qty: 5.00

5

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run

Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool # Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

QC8- Inspect parts - second check

0.00

120

QC

Memo

0.00

Quality Control

DAS
14
9-89

15/05/09

121

QC5- Inspect part completeness to step on W/O

0.00

121

QC

Memo

0.00

Quality Control

DAS
33
9-89

MAY 11 2015

130

Identify as per dwg & Stock Location: LG084

0.00

130

Packaging

Memo

0.00

Packaging

DAS
27
9-89

MAY 11 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation		Disposition			
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : ☐			

Work Order ID 131810

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Required Date: 4/20/15 Req'd Qty: 5.00 ***5*** Customer:
Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Memo

0.00

Quality Control

MLS

MAY 12 2015

MLS MAY 12 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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OTHER : ☐					

Picklist Print

Tuesday, April 21, 2015 2:05:37 PM

Page 1

Work Order ID: 131810

131810

Parent Item: D5122-1

D5122-1

Parent Item Name: Center Support, Upper

Start Date: 4/20/15

Required Date: 4/20/15

Start Qty: 5.00

Required Qty: 5.00

Comments: IPP REV.A NEW ISSUE JFS 14/07/16 VERIFIED BY: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D5122-1TRN		Manufactured	No			100	Each	8.0000	0.5	3			

D5122-1TRN

Center Support, Upper, Turning Detail

Location

Loc Qty

Loc Code

MAT060

8

127149

2

130607

6

3 JFC 2015-05-07

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																	
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DART AEROSPACE LTD		Work Order:	131810
Description: Center Support		Part Number:	D5122-1
Inspection Dwg: D5122 Rev: A		Page 1 of 1	

FIRST ARTICLE INSPECTION DIMENSION SHEET

Dim	Min	Max	Go/No Go Gauge	Record Actual Dimensions				
				1	2	3	4	5
HAAS Section								
AA	1.782	1.202		1.1955	1.196	1.1935	1.195	1.196
AB	0.090	0.110		0.099	0.097	0.098	0.098	0.098
AC	0.545	0.565		0.559	0.561	0.553	0.5585	0.558
AD	3.690	3.700		3.648	3.698	3.697	3.697	3.695
AE	3.550	3.560		3.556	3.557	3.556	3.556	3.555
AF	2.453	2.473		2.467	2.466	2.465	2.465	2.4645
AG	1.261	1.281		1.271	1.2705	1.2705	1.2705	1.273
AH	0.150	0.210		0.180	0.180	0.180	0.180	0.180
AI	0.454	0.474		0.462	0.463	0.466	0.465	0.459
AJ	Ø0.260	Ø0.267		0.263	0.263	0.263	0.263	0.263
AK	Ø0.188	Ø0.194		0.191	0.191	0.191	0.191	0.190
AL	3.067	3.077		3.0735	3.071	3.073	3.073	3.073
AM	3.990	4.010		3.999	4.000	3.9995	4.0005	4.000
AN	1.990	2.010		2.0005	1.9975	2.0005	2.0005	1.9985
AO	Ø0.625	Ø0.630		0.625	0.625	0.625	0.625	0.625
AP								
AQ								
AR								
AS								
AT								
AU								
AV								
AW								
AX								
AY								
AZ	bore			0.003	0.0035	0.004	0.001	0.003
Ensure that Ø " bore is perpendicular to " bore within "								
Accept/Reject								

Measured by: JFC	Date: 2015-05-08
Audited by: DAS	Date: 15/05/09
Preliminary Approval: 14	Date:

Rev	Date	Change	Revised By	Approved
A	15.03.12	New Issue	KJ	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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OTHER : ☐					

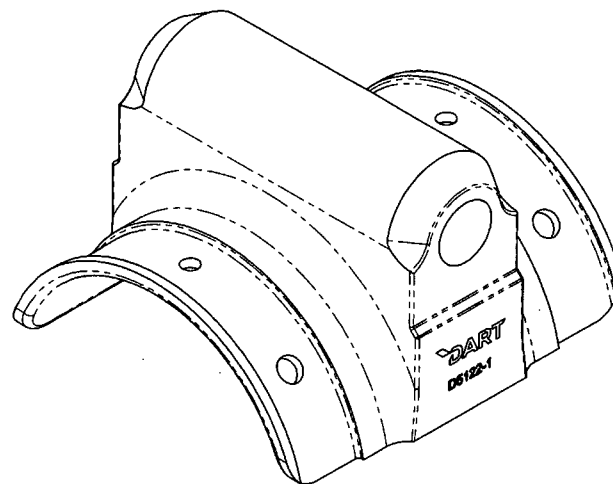
DART AEROSPACE LTD		Work Order:	131810
Description: Center Support		Part Number:	D5122-1
Inspection Dwg: D5122 Rev: A		Page 1 of 1	

FIRST ARTICLE INSPECTION DIMENSION SHEET

				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	5
HAAS Section								
AA	1.782	1.202		1.193				
AB	0.090	0.110		0.098				
AC	0.545	0.565		0.559				
AD	3.690	3.700		3.696				
AE	3.550	3.560		3.556				
AF	2.453	2.473		2.4655				
AG	1.261	1.281		1.271				
AH	0.150	0.210		0.180				
AI	0.454	0.474		0.463				
AJ	Ø0.260	Ø0.267		0.263				
AK	Ø0.188	Ø0.194		0.191				
AL	3.067	3.077		3.073				
AM	3.990	4.010		3.999				
AN	1.990	2.010		2.001				
AO	Ø0.625	Ø0.630		0.625				
AP								
AQ								
AR								
AS								
AT								
AU								
AV								
AW								
AX								
AY								
AZ	bore	⊥		0.001				
Ensure that Ø " bore is perpendicular to " bore within "								
Accept/Reject								

Measured by: OFC	Date: 2015-05-08
Audited by: DAS 14	Date: 15/05/09
Preliminary Approval: 9-89	Date:

Rev	Date	Change	Revised By	Approved
A	15.03.12	New Issue	KJ	



C215/04/22
W10:131810

D5122-1 CENTER SUPPORT

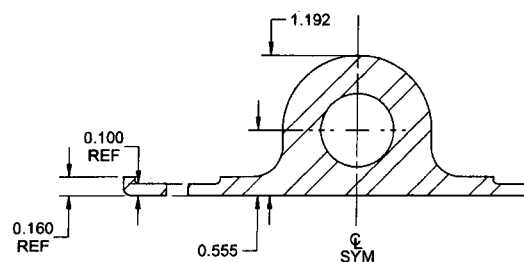
RELEASED
2014-08-25
MP

NOTES:

- 1) MATERIAL: MAKE FROM D5122-1TRN
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART LOGO AND P/N "D5122-1" IN AREA SHOWN
USING 0.125 HIGH X 0.010-0.020 DEEP LETTERING PER DART QSI 044 6.3,
IDENTIFY WITH DART B/N PER DART QSI 044 6.1
- 7) WEIGHT: 2.13 lbs
- 8) ALL NON-DIMENSIONED FEATURES DEFINED PER DRAWING FILE "D5122-1-REVA.SLDPRT"

A		NEW ISSUE		AP	14.06.02
REV.		DESCRIPTION		BY	DATE
DESIGN	AP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWN	AP				
CHECKED	CP	DRAWING NO.	REV. A		
MFG. APPR.	JLM	D5122	SHEET 1 OF 3		
APPROVED	MP	TITLE		SCALE	
DE APPR.	DS	CENTER SUPPORT		NTS	
DATE		14.06.02			
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APPROVED



SECTION A-A

HOLES PERPENDICULAR
WITHIN 0.005 OVER
ENTIRE LENGTH

R0.063
AROUND INSIDE EDGE

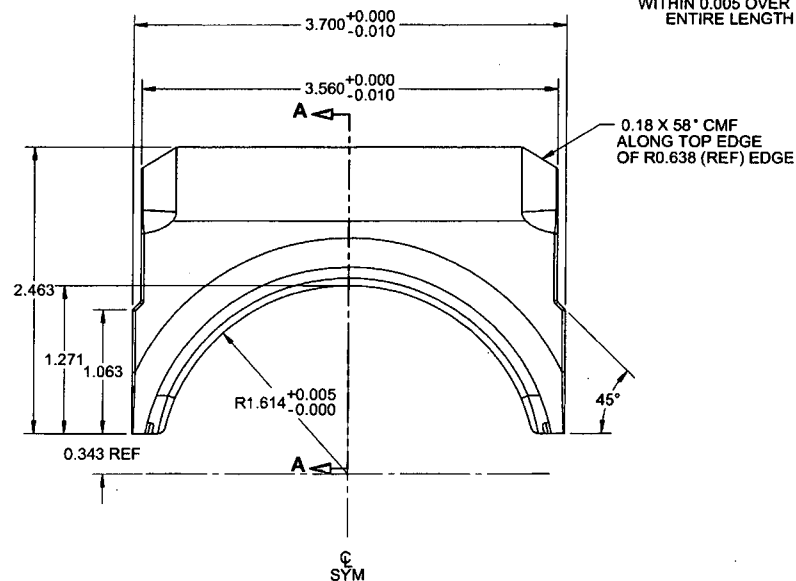
0.464 REF

OPTIONAL $\phi 0.261$ REF
TOOLING HOLE,
LOCATED AT 45° TO VERTICAL
4 PL

OPTIONAL $\phi 0.189$ REF
TOOLING HOLE,
2 PL

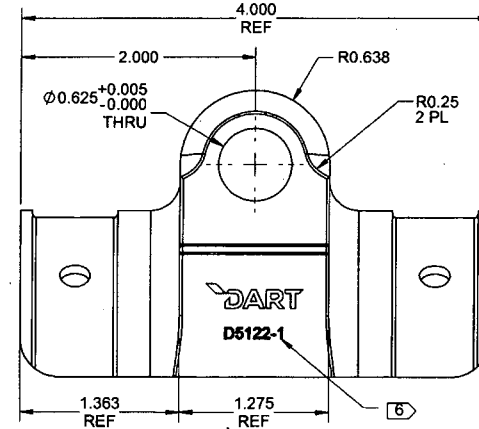
HOLES PERPENDICULAR
WITHIN 0.005 OVER
ENTIRE LENGTH

3.072 REF



D5122-1 CENTER SUPPORT

0.18 X 58° CMF
ALONG TOP EDGE
OF R0.638 (REF) EDGE



RELEASED
2014-08-25

APPROVED	DESIGN	AP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
	DRAWN	AP		
	CHECKED	CP	DRAWING NO.	REV. A
	MFG. APPR.	JLM	D5122	SHEET 2 OF 3
	APPROVED	MP	TITLE	SCALE
	DE APPR.	DS	CENTER SUPPORT	NTS
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